mass difference coming from $\mathscr{L}_{eff}^{L-R}$ and $\mathscr{L}_{eff}^{L-L}$ are now more nearly comparable, the former being enhanced mildly by the factor $2(\ln \frac{M_W}{m_{p'}} - 1)$. The mild reduction in the upper bound on $m_{p'}$ which this enhancement implies may be tolerable.

The discussion so far has been conducted in an approximation where one neglects the strong interactions, insofar as these determine the effective Lagrangian. In the context of asymptotic freedom and to within logarithmic corrections, this requires that the dominant contributions come from large momenta in the diagrams that we have been considering. For $\mathscr{L}_{eff}^{L-L}$ there are in fact important contributions from low momenta,[11] owing to the highly convergent character of the integral. The effective Lagrangian $\mathscr{L}_{eff}^{L-R}$ is on a somewhat more secure footing -- the logarithmic factor $\ln \frac{M_W}{m_{p'}}$ in Eq. (3) signifies the dominance of large momenta.

The notions of asymptotic freedom suggest that strong interaction effects at large momenta introduce corrections which are only logarithmic, i.e., powers of $\log \frac{M_W^2}{\mu^2}$, where μ is a scale factor. The second order weak effects that we are concerned with involve products of four current operators. If we focus on the contributions to $\mathscr{L}_{eff}^{L-R}$ coming from the domain where all space-time separations are small, then what is needed is a generalization of the Wilson expression for products of four operators. The machinery for a careful analysis is not yet available. Nevertheless, an intuitive, though perhaps crude basis for estimating the corrections to Eq. (3) would be as follows. The four quark operator which we meet in